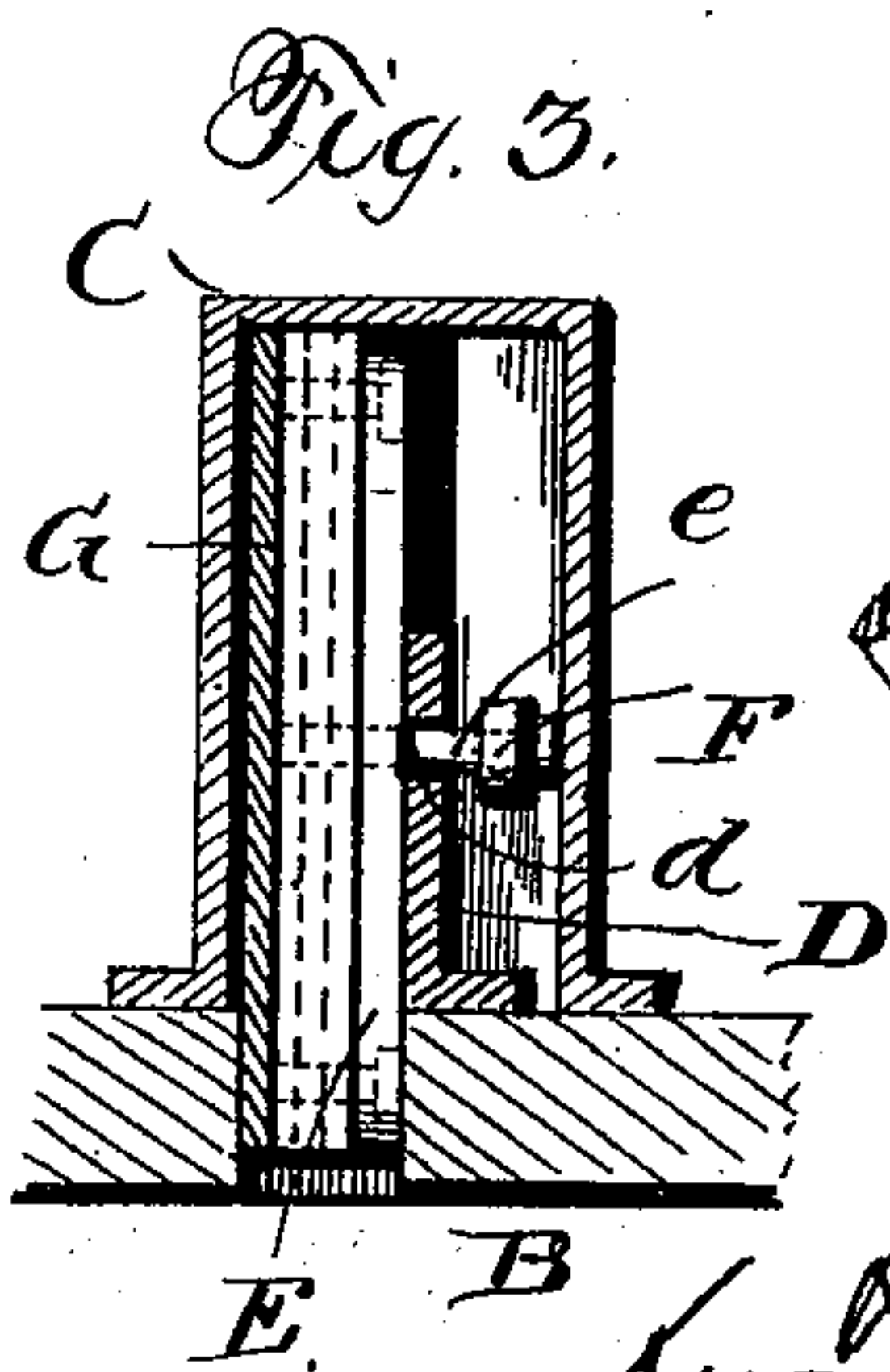
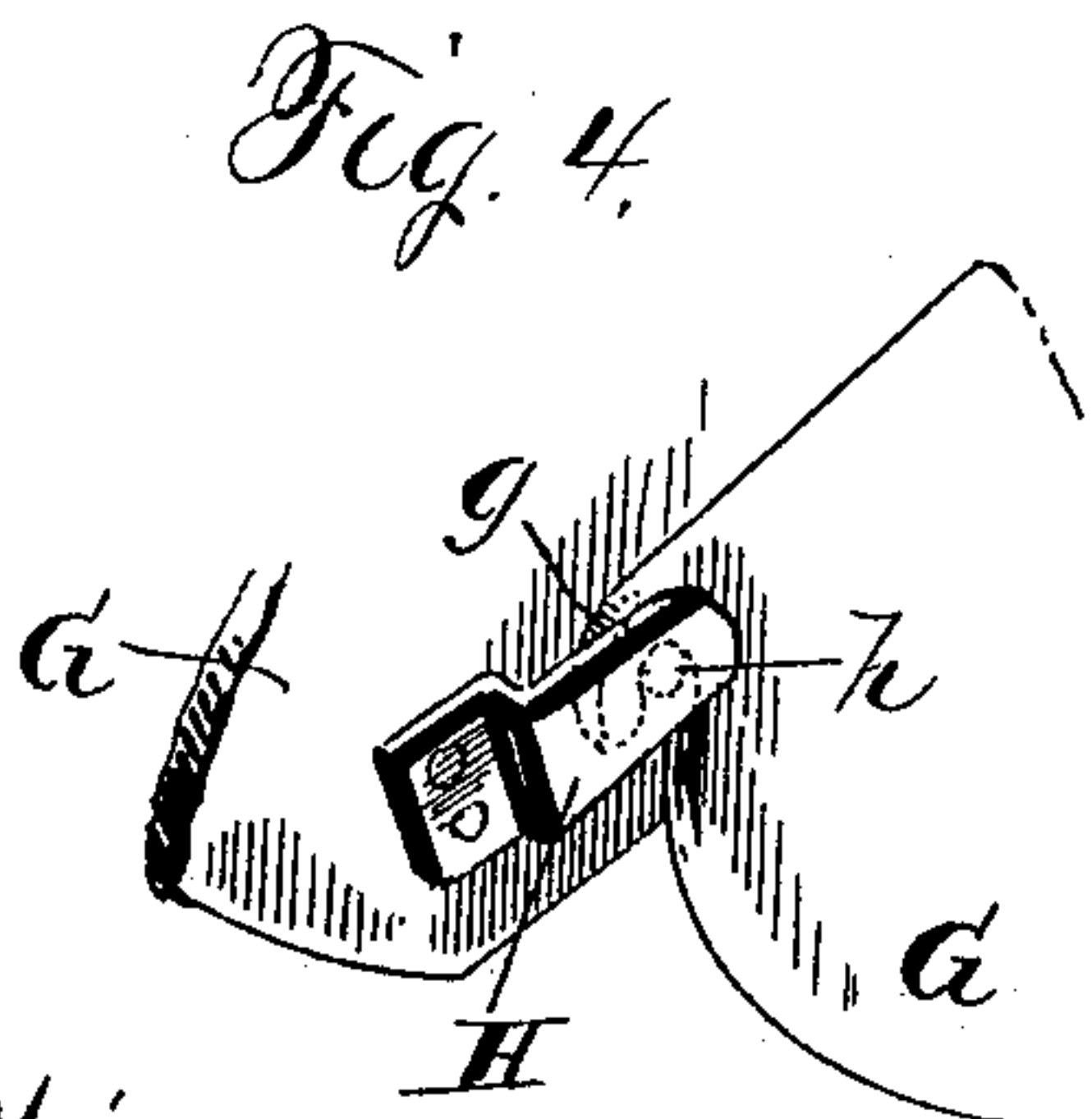
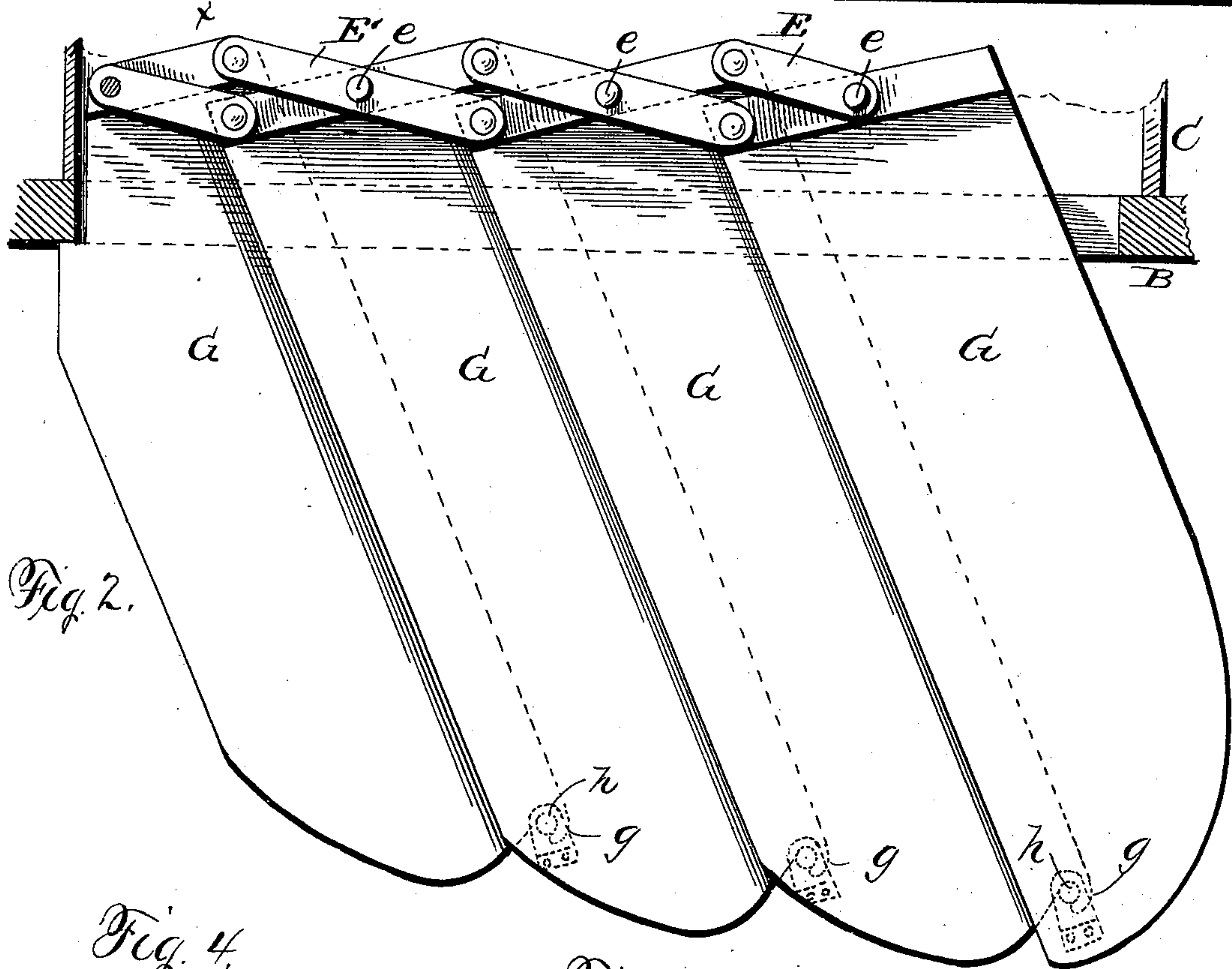
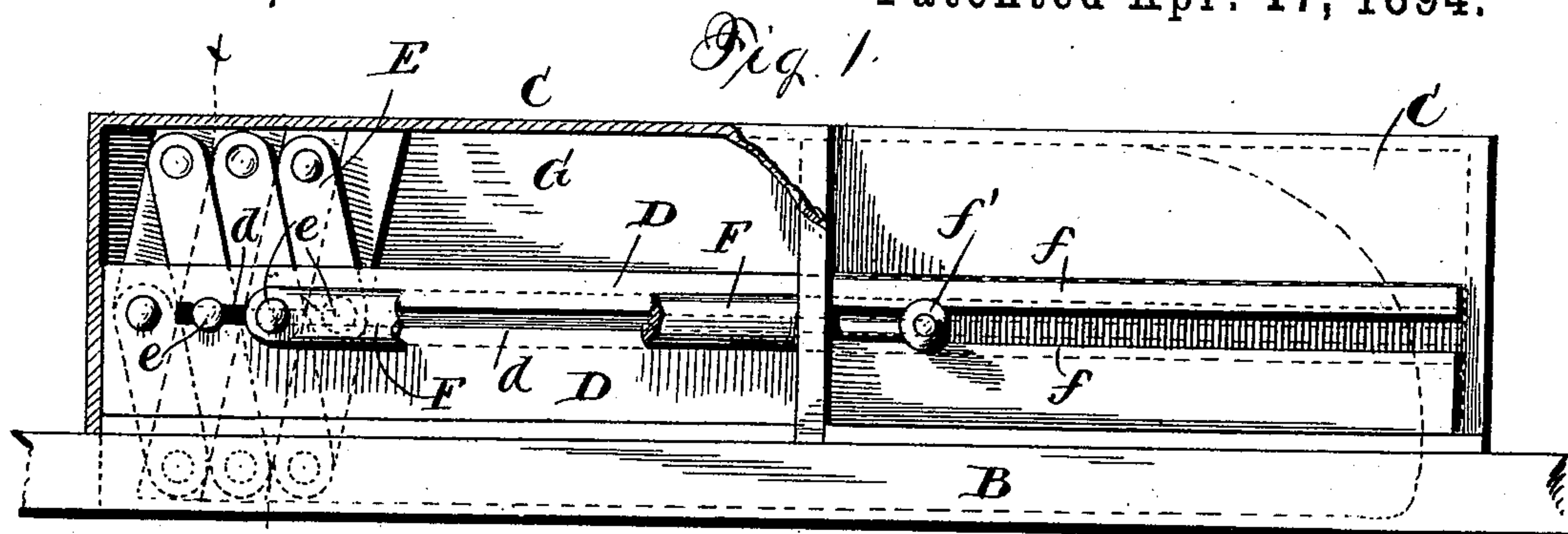


(No Model.)


J. COUCH.  
CENTER BOARD FOR BOATS.

No. 518,364.

Patented Apr. 17, 1894.



Witnesses  
B. Williamson  
A. L. Hough.

 *Inventor*  
*Joel Couch,*  
*by Franklin H. Douglass*  
*Atty.*



# UNITED STATES PATENT OFFICE.

JOEL COUCH, OF CLAYTON, NEW YORK.

## CENTERBOARD FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 518,364, dated April 17, 1894.

Application filed October 18, 1893. Serial No. 488,531. (No model.)

*To all whom it may concern:*

Be it known that I, JOEL COUCH, a subject of the Queen of Great Britain, residing at Clayton, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Centerboards for Boats; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to folding centerboards for water craft, and has for its object to provide a simple and efficient means for actuating the blades; to provide a locking mechanism to hold the blades together at the free ends at all stages of their movement, whereby the lateral separation of the free ends of the blades is prevented and the combined surface of the blades made to act as a single board, and to reduce the space into which the blades fold to as small compass as possible consistent with having the blades lie side by side and within the bounds of the largest blade.

The invention also has for its object to improve the general construction of this class of devices and facilitate the manipulation of the blades by a novel combination and disposition of parts which hereinafter will be more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1, is a side elevation of the invention showing the blades folded, a portion of the center board box removed and having a portion of the operating rod broken away. Fig. 2, is a detail view showing the center board lowered for use, and showing more clearly the lazy tongs mechanism for connecting and operating the blades. Fig. 3, is a cross section on the line  $x, x$  of Fig. 1. Fig. 4, is a detail view showing the strap and lock mechanism. Fig. 5, is a modification showing a corner of the blade folded to form a keeper.

The hull, slotted keel B, and center board box C are of the usual construction in that class of water craft having a center board. A vertical board D located on one side of the

slot in the keel and extending parallel therewith, is provided with a slot  $d$  to receive the center pivots  $e$  of the lazy tongs E and guide them in their movements. This construction is essential to produce the lowering of the center board on an extension of the lazy tongs. One end of the lazy tongs is pivoted at the central point to the end of the board D in line with the slot  $d$  so that the center or middle pivots shall always occupy the same straight line. The operating rod F may be connected with any of the movable pivots  $e$  and works in a guide  $f$  on the side of the center board box. The free end of this rod F may be movably operated, this being the preferable way for small craft, in which event it will be provided with a handle  $f'$ , or it may be connected in any of the well known ways with a power actuating mechanism as for large craft. By extending the lazy tongs the blades G pivotally attached thereto will be lowered, and on contracting the said lazy tongs the blades will be folded. This operation is easily understood from Figs. 1 and 2 of the drawings. There will be as many of these blades G as required, the number and size depending upon the nature of the craft. The free ends of the blades will have the greater portion curved on lines corresponding with the curved lines of motion described by the ends when raising and lowering the center board. The purpose of these curved ends will presently appear. A keeper H secured to one blade has its free end constructed to embrace a portion of the adjacent blade to prevent lateral separation of the blades and hold them rigidly together when the center board is lowered. These keepers H are so disposed as to follow and embrace the curved edge portions of the blades thereby engaging with the blades at all relative positions thereof. The curved edges of the blades terminate in hooks  $g$  in the plane of the blades, which hooks engage with the pins  $h$  in the keepers H and lock the blades when the center board is fully lowered.

The keepers H with slight modifications may be applied to any form of folding center-board to prevent lateral separation of the blades and cause them to act as a solid center-board.

In Fig. 5, the keeper H' is provided by fold-



ing a portion of the blade, preferably the corner, so as to embrace the edge portion of the adjacent blade.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. A folding center-board having the blades connected, and operated by a lazy tongs, the latter having the center or middle pivots extended and adapted to work in guides, substantially as shown and described.

2. In a folding center-board, the combination with the blades, and a lazy tongs connecting the said blades and having the middle pivots extended, of the operating rod working in a guide and connected with one of the said extended pivots, substantially as shown and for the purpose set forth.

3. In a folding center-board, the combination with the blades, and a lazy tongs connecting the same and having the middle or center pivots extended, of a guide to receive the said extended pivots, and an operating rod connected with one of the said pivots, substantially as shown and described.

4. In a folding center board, the combination with the blades, and a longitudinally slotted guide, of a lazy tongs connecting the said blades and pivoted to the guides in line

with the slot therein, and having the middle or center pivots extended and adapted to work in the said slot, substantially as shown and described.

5. The combination with the blades of a folding center board having hooks at one corner, of projections at the opposite corners of the said blades to be engaged by the respective hooks to lock the said blades, substantially as shown and described.

6. The combination with the blades of a folding center-board having their free ends curved on lines corresponding with the lines of movement of the said ends, of keepers provided on said blades to embrace the curved portions of the respective adjacent blades, substantially as shown and described.

7. The combination with the folding blades having hooked corners, of keepers to prevent lateral separation of the free ends of the said blades, and having pins to engage with the said hooked corners, substantially as, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOEL COUCH.

Witnesses:

HARRY BRESLOW,  
CHAS. CUMMINGS.